

**Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382**

**AIR QUALITY PERMIT
Issued under 401 KAR 52:040**

Permittee Name: Kentucky State Penitentiary

Mailing Address: P. O. Box 5128
Eddyville, Kentucky 42038

Source Name: Kentucky State Penitentiary
Mailing Address: Same Above

Source Location: 266 Water Street
Eddyville, Kentucky 42038

Permit Number: S-05-188
Source A. I. #: 2781
Activity #: APE20050002
Review Type: State Origin/Operating
Source ID #: 21-143-00004


Regional Office: Paducah Regional Office

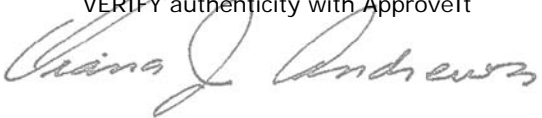
4500 Clarks River Road

Paducah, Kentucky 42003-0823

County: Lyon

Application
Complete Date: December 12, 2005
Issuance Date: December 29, 2005
Revision Date: NA
Expiration Date: December 29, 2015

E-Signed by Diana Andrews
VERIFY authenticity with ApproveIt 



**John S. Lyons, Director
Division for Air Quality**

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agencies.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emission Unit: 01 and 02 Indirect Heat Exchangers

Description:

Equipment:	Two (2) Natural Gas Fired Indirect Heat Exchangers Kewanee Classic III Package Fire Tube Steam Boiler Secondary Fuel: #2 Fuel Oil
Control equipment:	None
Maximum continuous rating:	14.650 mmBtu/hr each
Construction commenced:	October 2000

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exchangers, applicable to an emissions unit with rated capacity less than 250 mm Btu/hr and commenced on or after April 9, 1972.

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, applies to each steam generating unit commenced after June 9, 1989 that has a maximum design heat input capacity between 10mmBtu/hr and 100mmBtu/hr.

1. Operating Limitations:

None

2. Emission Limitations:

- a. Pursuant to 401 KAR 59:015, Section 4(1)(c), particulate emission shall not exceed 0.43 lb/mmBtu based on a three hour average. Compliance with the allowable particulate emission limitation while burning #2 fuel oil may be demonstrated by calculating emissions using the formula:

$$\text{PM emissions (lb/mmBtu)} = 2.00 \text{ lbs/ } 10^3 \text{ gallons (*) / (**)}$$

* = AP- 42 Emission Factor

** = # 2 Fuel oil heating value in mmBtu/10³ gallons

- b. Pursuant to 401 KAR 59:015, Section 5(1) (c), and 401 KAR 60:005 incorporating by reference 40 CFR 60 Subpart Dc, Sulfur Dioxide emission shall not exceed 0.50 lb/mmBtu or the oil combusted shall not contain greater than 0.50 weight percent of sulfur. Compliance with allowable sulfur dioxide limitation while burning #2 fuel oil may be demonstrated based on fuel supplier certification.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20 percent opacity based on a six- minutes average, except that a maximum of 40 percent opacity based on six minutes average shall be permitted for not more than 6 consecutive minutes in any consecutive 60 minutes during cleaning the firebox or blowing soot.
- d. These units are considered to be in compliance with the allowable SO₂, PM and opacity standards while burning natural gas.

3. Testing Requirements:

None

4. Monitoring Requirements:

- a. The permittee shall monitor the natural gas and fuel oil usage rate on a monthly basis.
- b. The permittee may use the fuel supplier certificate to meet the sulfur dioxide emission monitoring requirements specified in 40 CFR 60.47a, under Subpart Dc.
- c. The fuel supplier certification shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with specification under the definition of distillate fuel oil specified in the regulation.
- d. If the backup #2 fuel oil is burnt and steady state operating condition is achieved in the units, the permittee shall perform a qualitative visible observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observation. If visible emission from a stack is seen, then the opacity shall be determined by EPA Reference Method 9 and an inspection shall be initiated for any necessary repairs.

5. Recordkeeping Requirements:

Record of the amount of #2 fuel oil and natural gas burned shall be maintained on monthly basis.

6. Reporting Requirements:

- a. If fuel oil is burned in the unit, the permittee shall submit quarterly reports including the fuel supplier certification and a certified statement signed by the owner or operator of the affected facility that records of the fuel supplier certification submitted represent the fuel oil combusted during the quarter.
- b. See Section C, Subsection C (1,2 & 3).

SECTION C - GENERAL CONDITIONS

A. Administrative Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
2. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division. [401 KAR 52:040, Section 15]
3. Any condition or portion of this permit, which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Material incorporated by reference by 401 KAR 52:040, Section 1a, 11].
4. Pursuant to materials incorporated by reference by 401 KAR 52:040, this permit may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition [Material incorporated by reference by 401 KAR 52:040, Section 1a, 4,5].
5. This permit does not convey property rights or exclusive privileges [Material incorporated by reference by 401 KAR 52:040, Section 1a, 8].
6. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:040 Section 11(3)].
7. This permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in 401 KAR 50:038, Air emissions fee. The permittee shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20.
8. All previously issued permits to this source at this location are hereby null and void.

SECTION C - GENERAL CONDITIONS (CONTINUED)

B. Recordkeeping Requirements

1. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [401 KAR 52:040 Section 3(1)(f)].
2. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

C. Reporting Requirements

1.
 - a. In accordance with the provisions of 401 KAR 50:055, Section 1, the permittee shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - i. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
 - b. The permittee shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Reporting Requirement condition 1. a. above), the probable cause of the deviation, and corrective or preventive measures taken; to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report [Material incorporated by reference by 401 KAR 52:040, Section 5, 3].
2. The permittee shall furnish information requested by the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the permit [Material incorporated by reference by 401 KAR 52:040, Section 1a, 6].
3. Summary reports of monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation.

SECTION C - GENERAL CONDITIONS (CONTINUED)

The summary reports are due January 30th and July 30th of each year. All deviations from permit requirements shall be clearly identified in the reports. All reports shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

D. Inspections

1. In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency:
 - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation.
 - b. To access and copy any records required by the permit.
 - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit.
 - d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

E. Emergencies/Enforcement Provisions

1. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Material incorporated by reference by 401 KAR 52:040, Section 1a, 3].
2. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
 - a. An emergency occurred and the permittee can identify the cause of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
3. Emergency provisions listed in General Condition E.2 are in addition to any emergency or upset provision contained in an applicable requirement [401 KAR 52:040, Section 22(1)].

SECTION C - GENERAL CONDITIONS (CONTINUED)

4. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:040, Section 22(2)].

F. Compliance

1. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance, the following guideline shall be followed:

Pursuant to 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by 401 KAR 50:055, Section 1.

2. Pursuant to 401 KAR 52:040, Section 19, the permittee shall certify compliance with the terms and conditions contained in this permit by January 30th of each year, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Regional Office listed on the front of this permit in accordance with the following requirements:
 - a. Identification of the term or condition;
 - b. Compliance status of each term or condition of the permit;
 - c. Whether compliance was continuous or intermittent;
 - d. The method used for determining the compliance status for the source, currently and over the reporting period, and
 - e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
 - f. The certification shall be postmarked by January 30th of each year. Annual compliance

Certification should be mailed to the following addresses:

Division for Air Quality
Paducah Regional Office
4500 Clarks River Road
Paducah, KY 42003-0823

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601-1403

3. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all:
 - (a) Applicable requirements that are included and specifically identified in this permit; or
 - (b) Non-applicable requirements expressly identified in this permit [401 KAR 52:040, Section 11].

SECTION C - GENERAL CONDITIONS (CONTINUED)

G. Construction Requirements:

None